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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/055,279 | 01/22/2002 | Roy J. Byrd | YOR920010750US1 | 6772 |

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| EXAMINER | |
|---|---|
| VO, HUYEN X | |
| ART UNIT | PAPER NUMBER |
| 2626 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/055,279 | BYRD ET AL. | |
| | Examiner | Art Unit | |
| | HUYEN X. VO | 2626 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *24 March 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *1/22/2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 4/30/2008 have been fully considered but they are not persuasive. In further review of the prior art of record, examiner strongly believes that Larkey et al. teach both features of creating one or more abbreviation patterns and one or more definition patterns. According to http://www.dictionary.com, the word "create" is defined: to cause to exist, to bring into being, to give rise to, to produce, and etc. Larkey et al. teach a system for extracting acronyms or abbreviations and their associated definitions from webpage documents without consulting with a database. The process of extracting acronyms or abbreviations and associated definitions from webpage documents to "produce" acronym or abbreviation patterns and associated definition patterns is equivalent to "create" acronym or abbreviation patterns and definition patterns as claimed.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless – (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, 6-13, and 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Larkey et al. (Publication included in the IDS).

4. Regarding claims 1 and 21-22, Larkey et al. disclose a system and method for matching one or more abbreviations and one or more definitions, comprising:

an abbreviation pattern generation process that creates one or more abbreviation patterns representing candidate abbreviations (*referring to figure 1 and/or referring to building and updating the database section on page 207; extracting abbreviations from webpage documents to "produce" or "create" abbreviation patterns*).

a definition pattern generation process that creates one or more definition patterns representing the candidate definitions (*referring to figure 1 and/or referring to building and updating the database section on page 207; extracting "expansion" or definitions from webpage documents to "produce" or "create" definition patterns*).

5. Regarding claim 3, Larkey et al. further disclose one or more matching algorithms that match one or more pairs of abbreviations and definitions based on the abbreviation patterns and the definition patterns (*search system section, page 207*).

6. Regarding claims 6-9, Larkey et al. further disclose a method for specifying pairs, each of which contains a candidate abbreviation and a candidate definition, for each pair generating an abbreviation patterns and a definition pattern (*building and updating the database section on page 207; extractor; parenthesis*), where the pairs an existing abbreviation database pair (*Acrophile database in figures 1-2*), an abbreviation recognition process that finds one or more candidate abbreviations in text (*building and updating the database section on page 207; extractor; parenthesis*), a definition finding

process that locates one or more candidate definitions corresponding to the candidate abbreviation (*building and updating the database section on page 207; extractor; parenthesis*),

7. Regarding claims 10-12, Larkey et al. further disclose a best match selection process that chooses a best candidate definition from the matched candidate definitions using one or more criteria (*building and updating the database section on page 207; extractor; parenthesis*), wherein a best match selection mechanism that employs one or more weighting features (*building and updating the database section on page 207; extractor; parenthesis*), and wherein the weighting features may include syntactic cues found in the context (*building and updating the database section on page 207; extractor; parenthesis*).

8. Regarding claim 13, Larkey et al. further disclose an output process that outputs the candidate abbreviation and the matched candidate definition as confirmed pairs (*page 207*).

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 2, 4-5, and 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larkey et al. (Publication from IDS) in view of Malsheen et al. (US 5634084).

11. Regarding claim 2, Larkey et al. fail to specifically disclose a set of abbreviation rules that correlate abbreviation patterns to definition patterns using one or more formation rules; a lookup process that selects one or more formation rules, being selected formation rules, corresponding to the abbreviation pattern of the candidate abbreviation and the definition pattern of the candidate definition; and a rule application process that applies the selected formation rules to determine which candidate definitions match the candidate abbreviation. Malsheen et al. teach a set of abbreviation rules that correlate abbreviation patterns to definition patterns using one or more formation rules (*col. 7, line 63 to col. 8, line 24*); a lookup process that selects one or more formation rules, being selected formation rules, corresponding to the abbreviation pattern of the candidate abbreviation and the definition pattern of the candidate definition (*col. 7, line 63 to col. 8, line 24, by determining what's preceded the abbreviation*); and a rule application process that applies the selected formation rules to determine which candidate definitions match the candidate abbreviation (*col. 7, line 63 to col. 8, line 24*).

Since Larkey et al. and Malsheen et al. are analogous art because they are from the same field of endeavor, it would have been obvious to one of ordinary skill in the art

at the time of invention to modify Larkey et al. by incorporating the teaching of Malsheen et al. in order to improve abbreviation/definition recognition accuracy.

12. Regarding claims 4-5, Larkey et al. further disclose one or more matching algorithms that match one or more pairs of abbreviations and definitions based on the abbreviation patterns and the definition patterns (*search system section, page 207*), and where rule application process and the matching algorithm apply both rule based and non-rule based matching processes to match one or more abbreviations and one or more definitions (*search system section, page 207, extractor uses different algorithms and parenthesis information*).

13. Regarding claims 14-20, Larkey et al. fail to specifically disclose a system, as in claim 2, where the formation rule that produced the best candidate definition is weighted better due to the choice of the best candidate definition, and a process for adding new abbreviation rules in the existing set of abbreviation rules, and a mechanism for generating one or more new abbreviation rules when no formation rules successfully match high-quality pairs of candidate abbreviations and definitions, and a process for automatically adding the generated abbreviation rules to the existing set of abbreviation rules, and a rule generation process for generating abbreviation rules from pairs of abbreviations and definitions, a set of layered matching algorithms which are based on the relationship between the lengths of abbreviation patterns and the lengths of

definition patterns, and wherein each algorithm in the layered matching mechanism is applied in priority sequence.

However, Malsheen et al. teach the formation rule that produced the best candidate definition is weighted better due to the choice of the best candidate definition (*col. 8, lines 1-54, using rules*), and a process for adding new abbreviation rules in the existing set of abbreviation rules (*abbreviation table is just a memory slot storing abbreviations. Thus, adding or deleting abbreviations to or from memory is known to one of ordinary skill in the art*), and a mechanism for generating one or more new abbreviation rules when no formation rules successfully match high-quality pairs of candidate abbreviations and definitions (*col. 8, lines 1-54, rules stored in abbreviation expansion procedure 148 can be update since the abbreviation expansion procedure is only a memory slot*), and a process for automatically adding the generated abbreviation rules to the existing set of abbreviation rules (*col. 8, lines 1-54, rules are developed and installed into the system before the system could be fully functional*), and a rule generation process for generating abbreviation rules from pairs of abbreviations and definitions (*col. 8, lines 1-54*), a set of layered matching algorithms which are based on the relationship between the lengths of abbreviation patterns and the lengths of definition patterns (*col. 8, lines 1-54, abbreviation is shorter than the definition*), and wherein each algorithm in the layered matching mechanism is applied in priority sequence (*col. 8, lines 1-54*).

Since Larkey et al. and Malsheen et al. are analogous art because they are from the same field of endeavor, it would have been obvious to one of ordinary skill in the art

at the time of invention to modify Larkey et al. by incorporating the teaching of Malsheen et al. in order to improve subsequent abbreviation/definition recognition accuracy.

## *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fassett, Jr. (US 6532481) is considered pertinent to the claimed invention (col. 6 to col. 7).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUYEN X. VO whose telephone number is (571)272-7631. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on 571-272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Huyen X Vo/ 6/5/2008
Primary Examiner, Art Unit 2626

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